

Faunistic notes on Momphidae, Batrachedridae, Sthmopodidae and Cosmopterigidae from the Maltese Islands

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Abstract. An annotated list of Momphidae, Batrachedridae, Sthmopodidae and Cosmopterigidae (Lepidoptera) collected on the Maltese Islands is provided. Sixteen species are recorded (1 Momphidae, 1 Batrachedridae, 1 Sthmopodidae, 13 Cosmopterigidae), one of them is new to the Maltese Islands and Europe: *Bifascioides leucomelanellus* (Rebel, 1917) and three of them are new to the Maltese Islands: *Mompha subbistrigella* (Haworth, 1828), *Anatrachyntis badia* (Hodges, 1962), and *Ascalenia echidnias* (Meyrick, 1891). *Mompha subbistrigella* (Haworth, 1828) and *Eteobalea serratella* (Treitschke, 1833) are mentioned as new for Sardinia.

Key words. Lepidoptera, Momphidae, Batrachedridae, Sthmopodidae, Cosmopterigidae, Maltese Islands, new records.

Introduction

The Maltese Islands are a group of small, low-lying islands situated almost at the centre of the Mediterranean, from 35°48'28" to 36°0'0"N and 14°11'04" to 14°34'37"E. They are 92 km south of Sicily and 252 km north of the Libyan coast. The total area of the archipelago is 320 km/sq. The Maltese archipelago is composed of three inhabited islands, Malta, Gozo and Comino and a number of smaller, uninhabited islets and rocks. From the ecological point of view, the most important of these are Cominotto, Filfa, St. Paul's Island and Fungus rock. Malta is the main island. The highest point is at Dingli, on the west side of Malta and is 253 m above sea level. Lakes and rivers are lacking and only a few permanent freshwater springs are to be found.

The islands are composed of sedimentary rocks, mostly limestone which were laid down in the sea during the Oligo-Miocene period. The five principal types of rock exposed, listed in order of decreasing age are, Lower Coralline Limestone, Globigerina Limestone, Blue Clay, Greensand and Upper Coralline Limestone.

The Maltese climate is typically Mediterranean, with mild, wet winters and hot dry summers. Annual rainfall is variable and the average for the last forty years is about 500mm. Most of the rain falls between October and March and the period between April and September constitutes the dry season. The mean temperature for the last 45 years was 18.7 °C. The average for February, the coldest month is 12.36 °C, while that for August, the hottest month is 26.39 °C. Snow never falls. Relative humidity is generally high (65–80%) all the year round. Windy conditions are the norm. About 92% of the days of the year have a minimum of 1.85 km per hour of wind and the prevailing wind is the *mistral* or the north-westerly wind.

The islands have been settled since Neolithic times. In 2000, the population was 388, 613 and the population density reached approximately 1240 inhabitants per km². These

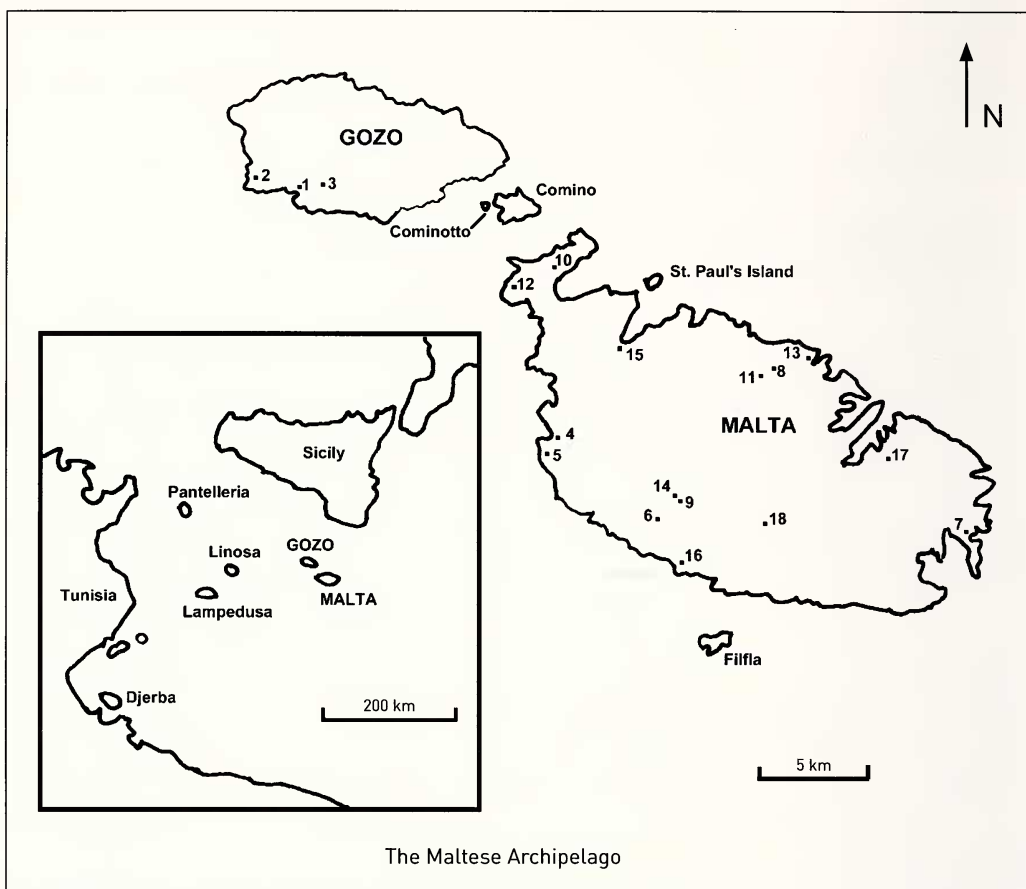


Fig. 1. Map of the Maltese Archipelago with the location of the collecting sites: 1. Gozo, Kercem, San Raffu, 2. Gozo, Wied il-Lunzjata, 3. Gozo, Xlendi, 4. Malta, Bahrija, Fomm ir-Rih, 5. Malta, Bahrija, Wied tal-Bahrija, 6. Malta, Buskett, Wied il-Luq, 7. Malta, Delimara, 8. Malta, Gharghur, 9. Malta, Mdina, 10. Malta, Mellieha, Ghadira, 11. Malta, Naxxar, 12. Malta, Paradise Bay, 13. Malta, Pembroke, 14. Malta, Rabat [including Dwejra, Ta' Koronja & Wied ta' Liemu], 15. Malta, Salina, 16. Malta, Siggiewi, Ghar Lapsi, 17. Malta, Zabbar, 18. Malta, Zebbug, Wied il-Kbir.

figures do not take into account the number of tourists who visit the islands every year. In the same year the estimated number of tourists who visited Malta was 1,216,000. Agricultural land accounts for 46.8% while built up areas and roads account for 30.6% of the land area. Only about 20% of the land is still in its natural state (Schembri et al. 1999).

The natural vegetation of the Maltese Islands is dominated by the Mediterranean scrub communities of which the best representatives are the various types of garigue typical of rocky ground and characterized by such species as *Coridothymus capitatus*, *Anthyllis hermanniae*, *Teucrium fruticans*, *Erica multiflora* and the endemic *Euphorbia melitensis* (Lanfranco 1995). Garigue ecosystems, such as at Ras il-Pellegrin, Il-Kortin tal-Mellieha and Ta' Cenc in Gozo, make up to about 10% of the natural environment. (Lanfranco 2002). In favoured situations, such as under cliff faces, scrub community

occurs as maquis, with *Ceratonia siliqua*, *Olea europaea*, *Pistacia lentiscus*, *Rhamnus oleoides*, *Teucrium flavum*, *Prasium majus*, *Lonicera impexa*, *Smilax aspera*, *Acanthus mollis*, *Capparis orientalis* and others (Lanfranco 1995). Less than 3% of the natural environment is of this type (Lanfranco 2002).

No natural woods occur, although remnants of a few *Quercus ilex* woods, such as at Buskett, near Dingli, at Wardija and Mellieha still remain or are reduced to maquis. The semi-artificial woodland at Buskett is fairly characteristic of a Mediterranean evergreen wood (Lanfranco 1995). Wooded areas account to only 1.4% of the natural environment. (Lanfranco 2002).

Freshwater habitats are scarce in Malta, especially during the summer months. Permanent streams, such as at Wied il-Luq in Buskett, Wied tal-Bahrija in Bahrija and Wied il-Lunzjata in Gozo are dominated by plant communities comprising *Arundo donax*, *Cyperus longus*, *Holoschoenus vulgaris*, *Populus albus*, *Salix pedicellata*, *Ulmus canescens*, sometimes accompanied by *Laurus nobilis*.

Dune communities are also very rare and are largely degraded. These are characterized by species belonging to *Salicornia*, *Suaeda*, *Crithmum*, *Limonium*, *Phragmites australis*, *Juncus acutus*, *Pancratium maritimum*, *Euphorbia*, *Salsola*, *Medicago*, and others (Lanfranco 1995). Dune areas still exist at Ghadira Bay and Rdum il-Hmar in Mellieha, at Armier Bay and Ramla in Gozo.

The fauna of the Maltese Islands, like its flora is numerous, varied and very interesting. Considering the insects alone, no less than 4200 species have been recorded so far from the Maltese Islands (Schembri 1996), of which about 600 species belong to the Lepidoptera. There exists a large literature on Lepidoptera. Notable summaries include the contributions of Valletta (1972, 1973), and Sammut (1982, 1983, 1984, 1985, 2000). The first mention of lepidoptera from the Maltese Islands is by De Reville (1750) of a larva feeding on the vine, later named by Stainton as *Antispila rivellei* in 1855. Other important works on Maltese Lepidoptera and which also contain references to microlepidoptera are those of Gulia (1858), De La Garde (1892), Andres (1916), Fletcher (1904–1905), Caruana Gatto (1905), J. Borg (1922), P. Borg (1932), Amsel (1950, 1954, 1955), DeLucca (1948, 1949, 1950, 1951, 1953, 1965, 1969), Valletta (1950, 1951, 1953, 1955, 1973) and Sammut (1984, 2000).

The first publication about Microlepidoptera belonging to the families mentioned in the title of this paper was made by DeLucca (1949). Later followed by Amsel (1955) and DeLucca (1950, 1956). Faunistic lists of Lepidoptera of the Maltese Islands were published by Karsholt & Razowski (1996), Sammut (1984, 2000) and Valletta (1973). The present contribution is a compilation of old records from the literature and many new ones from collected material from the second author and others.

Material and methods

The recent material has been collected by A. Catania, P. Sammut and A. Seguna (Malta) and H. Hendriksen, B. Petersen, U. Seneca and B. Skule (Denmark). Most material has been collected by a mercury vapour light source (120W) or by a moth trap with an

actinic tube (15W) as source of light. All of the material examined, except *Cosmopterix pulchrimella* which was reared from its food plant, was collected at light as explained above.

Taxonomy and nomenclature follow Koster & Sinev (2003), and additional references to the life histories of the single species can also be found in that work.

Abbreviations

AC	coll. A. Catania
AS	coll. A. Seguna
AV	coll. A. Valletta
DL	coll. DeLucca
PS	coll. P. Sammut
ZMUC	The Zoological Museum, University of Copenhagen

Results

MOMPHIDAE

Mompha subbistrigella (Haworth, 1828)

Material. Malta, Naxxar, 28.v.2001, leg. A. Seguna, (AS).

Life history. Larvae feed in the seed pods of small species of *Epilobium*-species like *E. montanum* L., *E. palustre* L., *E. parviflorum* Schreb., and *E. tetragonum* L. They eat the unripe seeds and the seed pods become distorted by these activities and have a small hole in the side. The moths are on the wing throughout the year and are most frequently found in spring after hibernation (Koster & Sinev 2003). Both *Epilobium parviflorum* and *E. tetragonum* occur on the Maltese Islands.

Distribution. The species has a wide range of distribution in Europe and is found in most countries including in the Mediterranean area (Koster & Sinev 2003). The most nearby location of Malta is Sicily, and recently it has also been established from Sardinia: Sardegna merid., Musei, 120 m, 7.vi.[19]72, coll. Hartig (coll. Baldizzone) (Koster, pers. det.).

Remarks. This is the most southern location of this species so far. New to the lepidoptero-fauna of the Maltese Islands.

BATRACHEDRIDAE

Batrachedra parvulipunctella Chrétien, 1915

Eustaintonia phragmitidella Mariani, 1936

Material. Gozo, Xlendi, 9.ix.1953, 8.ix.1954, leg. C. DeLucca (DL). Malta, Buskett, Wied il-Luq, 6.vii.2004, 2 exx., leg. P. Sammut (PS).

Life history. Larvae live in white silky cases, feeding on the waxy secretions of the coccid-species *Aclerda berlesii* Buffa (Homoptera: Aclerdidae) or other species of coccids, which occur on *Phragmitis australis* (Cav.) Trin. ex Steud. and *Arundo donax*

L. (Poaceae). The moths are on the wing in two generations from May–June and again in July–September.

Distribution. Southern Europe and Northern Africa (Koster & Sinev 2003).

References. DeLucca 1956: 256; DeLucca 1965: 514; Valletta 1973: 90; Mariani 1936: 97; Sammut 1984: 17; Riedl 1996: 84; Sammut 2000: 51.

Remarks. The occurrence of *Aclerda berlesii* as well as *Phragmitis australis* and *Arundo donax* on the Maltese Islands demonstrates that *Batrachedra parvulipunctella* is a resident species here.

STATHMOPODIDAE

Neomariania partinicensis (Rebel, 1937)

Material. Malta, Melliha Bay, Ghadira, 19.–31.viii.1992, leg. B. Petersen, det. S. Yu. Sinev (ZMUC); Rabat, Dwejra, 21.vi.2002, 31.viii.2001, 13.vii.2004, at light, 6 exx., leg. Sammut (PS).

Life history. Biology unknown. Adults have been collected from the end of June till mid-September.

Distribution. Mediterranean area.

References. Riedl 1996: 83; Sammut 2000: 51; Parenti 2000: pl. 72/8.

Remarks. The systematic position of the genus *Neomariania* is uncertain. Rebel (1937) placed it in Momphidae. Later the genus was transferred to Oecophoridae (Riedl 1986) and then to Stathmopodidae (Riedl 1990) and it still remains there in most recent catalogues.

Sammut (2000) stated that the species does not occur in Malta, despite the publication in Karsholt & Razowski (1996). At that time he was not aware of the single specimen mentioned above, collected by a Danish hymenopterist.

COSMOPTERIGIDAE

Cosmopteriginae

Cosmopterix pulchrimella Chambers, 1875

Cosmopteryx parietariae M. Hering, 1931

Material. Malta, Gharghur, 29.viii.1953, leg. A. Valletta (AV); Salina, 19.ix.1949, leg. C. DeLucca (DL); Zabbar, 20.iii.1995, reared from *Parietaria judaica*, leg. C. Farrugia (PS).

Life history. In Europe the larvae are leaf miners on *Parietaria officinalis* L. (Urticaceae). The mine starts as a gallery that soon widens to an irregular blotch. The larva constructs a web inside the mine which often contracts the leaf. The frass is partly removed from the mine and the larva makes several of these mines. Pupation takes place inside the mine. Adults fly in several overlapping generations from spring to autumn.

Distribution. Holarctic. In Europe in the Mediterranean area north to the south of England, Switzerland and Hungary, also on the Canary Islands and Madeira.

References. DeLucca 1950: 233; Amsel 1955: 28; Valletta 1973: 90; Sammut 1984: 17; Riedl 1996: 103; Sammut 2000: 57.

Remarks. *Parietaria judaica* L. has not been mentioned before as food plant of this species.

Cosmopterix coryphaea Walsingham, 1908

Cosmopterix donatellae Mariani, 1932

Cosmopterix formosa Amsel, 1935

Material. **Gozo**, Wied il-Lunzjata, 19.ix.1953, 2 exx., leg. C. DeLucca (DL). **Malta**, Mellieha, Ghadira, 80 m, 10.iv.2004, (southern storm), leg. B. Skule, (ZMUC).

Life history. The larvae are leaf miners on *Phragmites australis* (Cav.) Trin. ex Steud. (Poaceae). The mine starts as a gallery and widens into an elongate blotch, frass is piled in the lower, narrower part and is partly ejected. Pupation inside the mine. Adults fly from the end of February till June. The specimens from Gozo have been collected in September, indicating a second generation.

Distribution. Mediterranean area and Northern Africa towards the Near East, also on the Canary Islands.

References. Amsel 1955: 28; DeLucca 1956: 256; Valletta 1973: 90; Sammut 1984: 18; Riedl 1996: 103; Sammut 2000: 57.

Remarks. A recent addition to the fauna of the island Malta.

Pyroderces argyrogrammos (Zeller, 1847)

Pyroderces goldeggella Herrich-Schäffer, 1853

Material. **Gozo**, Kercem, San Raflu, 15.vi.2001, leg. A. Seguna (AS); **Malta**, Bahrija, Fomm ir-Rih, 3.viii.2001, leg. A. Seguna (AS); Bahrija, Wied tal-Bahrija, 23.viii.2003, leg. A. Seguna (AS); Buskett, Wied il-Luq, 6.vii.2001, 27.viii.2001, leg. P. Sammut (PS); Delimara, 22.vi.2001, leg. A. Seguna (AS); Gharghur, 18.vii.1993, leg. A. Seguna (AS); Mellieha, Ghadira, 20.–25.v.1994, 3 exx., leg. U. Seneca, (ZMUC); Naxxar, 28.iv.1992, 14.v.1998, 22.iv.1999, 13 and 30.v, 25.vi, 2.vii. and 10.viii.2001, 18.v.2002, leg. A. Seguna (AS); Paradise Bay, 15.v.1999, leg. P. Sammut (PS); Paradise Bay, 19.vi.1998, leg. A. Seguna (AS); Pembroke, 26.x.1984, 5 and 27.iv and 25.ix.1990, 4 exx., leg. A. Catania (AC); Rabat, 3.vi and 30.vii.1983, 15.v., 4.vi., 20.vii.1999, 16.vii.2001, leg. P. Sammut (PS); Rabat, Dwejra, 13.vii.2004, leg. P. Sammut (PS); Rabat, Ta' Koronja, 14.vi.2002, leg. A. Seguna (AS); Siggiewi, Ghar Lapsi, 23.iv.1999, 2 exx., leg. P. Sammut (PS); Zebbug, Wied il-Kbir, 21.iv.1999, leg. A. Seguna (AS).

Life history. Larvae in the seed heads of Asteraceae like *Carlina* spp., *Centaurea* spp. and *Carduus* spp. where they eat from the seeds. Pupation takes place in between the down of the seeds in a light cocoon. The moth flies in two generations from the end of April to the end of September, but a third generation is possible in warm seasons.

Distribution. From Central Europe (Mid-Germany) southwards to the Mediterranean area, Canary Islands, Northern Africa, the Middle East and Central Asia. Recently also found in Great Britain on the Channel Islands (Sterling et al., 2004).

References. DeLucca 1950: 250; Valletta 1973: 90; Sammut 1984: 18; Riedl 1996: 103; Sammut 2000: 57.

Remarks. According to DeLucca (1950) the species on Malta can be very common at light in many places.

Pyroderces wolschrijni Koster & Sinev, 2003

Material. **Malta**, Mellieha, Ghadira, 30.iv., 3., 4., 5.vii.2002, leg. H. Hendriksen (ZMUC); Naxxar, 30.iv.2001, leg. A. Seguna (AS); Rabat, 1.x.2001, 11.vi.2004, 2 exx., leg. P. Sammut (PS); Rabat, Dwejra, 13.vii.2004, leg. P. Sammut (PS).

Life history. Biology unknown. Adults fly from mid-April to mid-May and again from early July to mid-October, indicating two generations.

Distribution. So far the species has only been found in Spain, Morocco and Malta.

Remarks. Appears to be widely distributed on the island of Malta.

Anatrachyntis badia (Hodges, 1962)

Material. **Malta**, Mellieha, Ghadira, 80 m, 9., 10.iv.2004, (southern storm), 2 exx., leg. B. Skule, (ZMUC).

Life history. Larvae on a variety of material such as lime, grapefruit, banana, cabbage, blossoms of coconut, elm leaves and also on pine cones infested by *Dioryctria* sp. (Pyralidae) and rust infected cones of several pine trees. The adults fly in two, in the south maybe three, generations and can be found in most months of the year.

Distribution. Originally described from North America. Recently also found outdoors in southern Europe (Canary Islands, Spain and France) and introduced in Great Britain and Holland.

Remarks. The species may have been introduced to Malta and may have established a population due to the subtropical climate. New to the lepidopterofauna of the Maltese Islands.

Coccidiphila gerasimovi Danilevsky, 1950

Material. **Malta**, Buskett, Wied il-Luq, 27.viii.2001, leg. P. Sammut (PS); Mellieha, Ghadira, 2., 4., 5.vii.2002, 4 exx., leg. H. Hendriksen, (ZMUC); Naxxar, 6.iii.2001, leg. A. Seguna (AS); Rabat, 26.viii.1983, 15.v.1999, 6., 8.vii.2001, 4 exx., leg. P. Sammut (PS); Rabat, Dwejra, 31.viii.2001, leg. P. Sammut (PS); Rabat, Wied ta Liemu, 17.viii.2001, leg. P. Sammut (PS); Siggiewi, Ghar Lapsi, 3.viii.2001, 2 exx., leg. P. Sammut (PS).

Life history. Immature stages not described. The larvae feed on the eggs of Coccidae (Homoptera). The adults fly from early March to October, probably in more than one generation

Distribution. Mediterranean area, Canary Islands, Northern Africa towards the Near East.

Remarks. The species is well established and widely distributed on the island of Malta. *Coccidiphila ledereriella* (Zeller, 1850) has also been reported from the Maltese Islands (Koster & Sinev), but since validation of this record is not possible the species will be excluded from the list of the Maltese Lepidoptera. The species is externally very similar to *C. gerasimovi*, but the yellowish colour on the forewing is more prominent.

Eteobalea intermediella (Riedl, 1966)

Material. **Gozo**, Kercem, San Raflu, 15.vi.2001, leg. A. Seguna (AS). **Malta**, Bahrija, Fomm ir-Rih, 3.viii.2001, leg. A. Seguna (AS); Bahrija, Wied tal-Bahrija, 23.viii.2003, leg. A. Seguna (AS); Buskett, Wied il-Luq, 6.vii., 27.viii.2001, leg. P. Sammut (PS); Delimara, 22.vi.2001, leg. A. Seguna (AS); Gharghur, 18.vii.1993, leg. A. Seguna (AS); Mellieha, Ghadira, 20.–25.v.1994, 3 exx., leg. U. Seneca, (ZMUC); Naxxar, 28.iv.1992, 14.v.1998, 22.iv., 13.v.1999, 30.v, 25.vi, 2.vii.10.viii.2001, 18.v.2002, leg. A. Seguna (AS); Paradise Bay, 19.vi.1998, leg. A. Seguna (AS); Paradise Bay, 15.v.1999, leg. P. Sammut

(PS); Pembroke, 26.x.1984, 5., 27.iv., 25.ix.1990, 6 exx., leg. A. Catania (AC); Rabat, 3.vi., 30.vii.1983, 15.v., 4.vi., 20.vii.1999, 16.vii.2001, leg. P. Sammut (PS); Rabat, Ta' Koronja, 14.vi.2002, leg. A. Seguna (AS); Siggiewi, Ghar Lapsi, 23.iv.1999, 2 exx., leg. P. Sammut leg (PS); Zebbug, Wied il-Kbir, 21.iv.1999, leg. A. Seguna (AS).

Life history. Larvae in the roots of *Linaria vulgaris* Mill., *L. pontica* L., *L. genistifolia* (L.) Mill., *L. dalmatica* (L.) Mill., and *Anarrhinum bellidifolium* (L.) Willd. (Scrophulariaceae). The immature stages are very similar to *Eteobalea serratella*. Adults fly from late April till early November in two generations (one generation in the north and east of its distributional area).

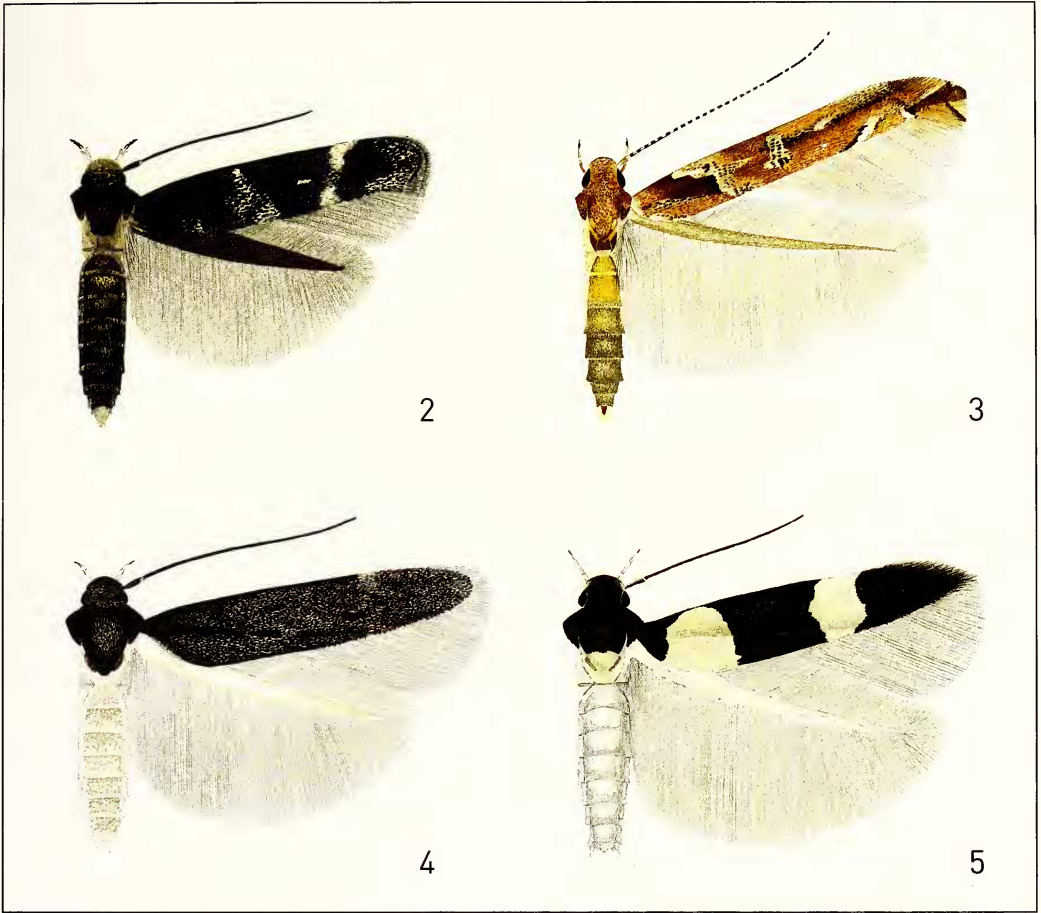
Distribution. Central and Southern Europe, eastwards to the Caucasus, Asia Minor, Near and Middle East towards Central Asia. Northern Africa (Morocco, Algeria, Tunisia)

Remarks. DeLucca (1949) reported the occurrence of *Eteobalea serratella* (Treitschke, 1833) on Gozo, Xlendi, at light, summer of 1953 and Malta, Salina, 6.ix.1953. This was followed by Amsel (1955). These only known records of *E. serratella* cannot be validated and the species should be removed from the list of Maltese Lepidoptera. In that time *Eteobalea intermediella* and the very similar looking *E. anonymella* (Riedl, 1965) have not been described for science yet. Therefore it is very well possible that these records also refer to *E. intermediella*. However it cannot be excluded that *E. serratella* is native on the Maltese Islands for both *E. serratella* and *E. anonymella* occur on Sicily, and recently *E. serratella* has also been established from Sardinia: Sardegna, Nuoro, 10 km W Dorgali, 26.vii.[19]99, Triberti (coll. Baldizzone) (Koster, pers. det.).

It is recommendable that in future all collected material of the “*E. intermediella*-complex” be carefully checked because it is possible that besides *E. serratella*, *E. anonymella*, *E. beata* and *E. sumptuosella* will be found on the Maltese Islands since these last three species also occur in the Mediterranean area.

Chrysopeleinae

The subfamily Chrysopeleinae is a very recent addition to the fauna of the Maltese Islands. The four species mentioned here are widespread from Northern Africa to the Middle East and further eastwards. They all occur in dry or desert-like habitats. For two of them, *Ascalenia acaciella* and *Gisilia stereodoxa*, the foodplants of the larvae are known, they both live on *Acacia*-species (Mimosaceae). The biology of the remaining two species, *Ascalenia echidnias* and *Bifascioides leucomelanellus*, is unknown. It cannot be excluded that the larvae of these two species also feed on *Acacia*. During the last 25 years several species of *Acacia* has been introduced to the Maltese Islands and planted often in large quantities for landscaping. Before that time *Acacia* were not present on the islands. As the Maltese Islands are situated relatively close to the coast of North Africa, the species involved could have migrated by southern winds. There is more or less evidence for this because in 2004 two new species for the fauna of the islands could be added, collected at nights with a strong southern wind. In the past it was not possible for these species to settle because of lack of food plants, but this



Figs. 2–5. Watercolours of spreaded adults. 2. *Mompha subbistrigella* (Haworth, 1828). 3. *Anatrachyntis badia* (Hodges, 1962). 4. *Ascalenia echidnias* (Meyrick, 1891). 5. *Bifascioides leucomelanellus* (Rebel, 1917).



Fig. 6. *Bifascioides leucomelanellus*, sitting inside the light trap (photo: J. J. Borg).



Figs. 7–8. Habitats on Malta. 7. Bahrija, Wied tal-Bahrija, with *Arundo donax*. 8. Mellicha, Garigue at Ghadira Bay.



Figs. 9–10. Habitats on Malta. **9.** Mdina, with shrubs of *Acacia karroo*. **10.** Malta, Paradise Bay, Garigue with *Acacia* in the background.

situation has been changed now. Although the Chrysopeleiniinae are treated as a family in Microlepidoptera of Europe, Volume 5 (Koster & Sinev 2003), we follow here the more widely accepted opinion (Hodges 1999; Kaila 2004; Sinev & Koster 2004) that Chrysopeleiniinae are a subfamily of Cosmopterigidae.

Ascalenia acaciella Chrétien, 1915

Scythris tergipunctella Turati, 1924

Scythris maculatella Lucas, 1937

Tischeria noviciata Gozmány, 1960

Material. Malta, Buskett, Wied il-Luq, 27.viii.2001, 4 exx., leg. P. Sammut (PS); Mdina, 16.vii., 13., 15., 16., 27., 29.viii.2004, 17 exx., leg. P. Sammut (PS); Mellieha, Ghadira, 2., 3., 4., 5.vii.2002, 11 exx., leg. H. Hendriksen (ZMUC); Mellieha, Ghadira, 80 m, 10.iv.2004, (southern storm), leg. B. Skule (ZMUC).

Life history. Larvae in the flower heads of *Acacia farnesiana* (L.) Willd., *A. karroo* Heyne, and *A. tortilis* (Forsk.) Hayne (Mimosaceae). Pupation amongst flowers in a transparent cocoon covered with frass. Adults fly almost throughout the year, probably in several generations.

Distribution. Not on the European mainland. From the Canary Islands (Gomera), Malta, Northern Africa, Near and Middle East, eastwards to Afghanistan and Pakistan.

Remarks. Most probably introduced with *Acacia* trees which are not native to Malta but which are widely used in landscaping. In the locality from where the Mdina specimens were collected are numerous trees of *Acacia karroo* Hayne. New to the lepidopteroфаuna of the Maltese Islands.

Ascalenia echidnias (Meyrick, 1891)

Ascalenia acaciella var. *signatella* Chrétien, 1915: 352.

Ascalenia oranella Lucas, 1939: 209.

Ascalenia satellite Gosmány, 1960: 420.

Material. Malta, Mellieha, Ghadira, 80 m, 9.iv.2004, (southern storm), 7 exx., leg. Skule, (ZMUC).

Life history. Biology unknown. Adults have been collected from April to June and in September–October.

Distribution. From Madeira and the North African countries to Asia Minor.

Remarks. Malta is the second locality of this species in Europe. New to the lepidopteroфаuna of the Maltese Islands.

Bifascioides leucomelanellus (Rebel, 1917)

Ascalenia pirastica Meyrick, 1936

Material. Malta, Mdina, 13, 15, 16, 26 and 27.viii.2004, 55 exx., leg. P. Sammut (PS); Rabat, 1.viii.2001, 24.viii.2003, 3 exx., leg. P. Sammut (PS);

Life history. Biology unknown. Adults have been collected in February and from May till the end of August. There is probably more than one generation.

Distribution. So far only mentioned from Libya and Egypt.

Remarks. If the larvae feed on Mimosaceae like many of these desert species in Chrysopeleiinae do, *Acacia karroo* is most likely the foodplant. It is the only species of this plant family that is available on the site where most of the specimens of *Bifascioides leucomelanellus* under study have been collected. New to the lepidopterofauna of the Maltese Islands and Europe.

Gisilia stereodoxa (Meyrick, 1925)

Ascalenia evitans Meyrick, 1925

Stagmatophora alfieriella Rebel, 1926

Material. Malta, Mdina, 16., 26., 29.viii.2004, leg. P. Sammut (PS); Pembroke, 20.ix.1990, leg. A. Catania (coll. Sauter).

Life history. Larvae on the inflorescences of *Acacia nilotica* (L.) Dell. (Mimosaceae). Adults have been collected in January–February, April–May and July till October.

References. Riedl, 1996: 101; Sammut 2000: 56.

Distribution. Along the coast of the Mediterranean area, Sardinia, Malta, Egypt towards Iran and India.

Remarks. *Acacia nilotica* does not occur on the Maltese Islands. *Acacia karroo* has been widely introduced, but also *A. saligna* (Labille) H.L. Wendl. and *A. cyclops* A. Cunn. ex G. Don. On the collecting sites only both latter *Acacia*-species occur, so the food plant of the larva can either be one of them or both.

Acknowledgements

We thank Ole Karsholt (ZMUC) for the loan of material recently collected on the Maltese Islands, we also thank Aldo Catania (Zebbug, Malta) and Anthony Seguna (Naxxar, Malta) for making their collections available for study, John J. Borg (Rabat, Malta) for providing us with the photograph of *Bifascioides leucomelanellus* and Bjarne Skule (Veksø, Denmark) for providing additional data. We also thank Peter Huemer (Innsbruck, Austria) and Ole Karsholt (Copenhagen, Denmark) for their constructive comments on the manuscript.

References

- Amsel, H. G. 1950. Neue microlepidopteren aus Marocco, Malta und dem Lebanon. – Bulletin de la Société des Sciences Naturelles du Maroc **30**: 178–179.
- Amsel, H. G. 1954. Neue Pterophoridae, Gelechiiden und Tineiden aus Palastina und Malta. – Bulletin de la Société Fouad Ier. d'Entomologie, Caïro **38**: 51–57.
- Amsel, H. G. 1955. Über Mediterrane Microlepidopteren und Einige Transcaspische Arten. – Institut Royal des Sciences naturelles de Belgique, Bulletin **31** (83): 1–64.
- Andres, A. von 1916. Verzeichnisdar wahred meiner Kriegsgefangeschaft von mir auf Malta gesammelten (Lepidoptera) – Entomologische Rundschau. **33** (9): 43–45, (10): 48–49, (11): 50.
- Borg, J. 1922. Cultivation and Diseases of Fruit Trees in the Maltese Islands. – Government Printing Press, Malta. 622 pp.
- Borg, P. 1932. The Lepidoptera of the Maltese Islands. – Government Printing Press, Malta. 25 pp.
- Caruana Gatto, A. 1905. Seconda Contribuzione alla Fauna Lepidotterologica dell'Isola di Malta – Eteroceri. – Tipografia del 'MALTA', Valletta. 32 pp.
- De La Garde, P. 1892. Mediterranean Lepidoptera. – Mediterranean Naturalist **1** (9): 133–135, (10): 147–148.
- DeLucca, C. 1948. Some species of Crambidae (Lepidoptera, Heteroneura, Pyralina) observed in Malta. – The Entomologist **81** (1025): 228.

- DeLucca, C. 1949. Microlepidoptera new to the Maltese Islands. – *The Entomologist* **82** (1034): 148–149.
- DeLucca, C. 1950. Additional records of Micro-lepidoptera from Malta. – *The Entomologist* **83** (1050): 249–251.
- DeLucca, C. 1951. New additions to the Lepidoptera of Malta. – *The Entomologist* **84** (1062): 258–259.
- DeLucca, C. 1953. Additions to the list of Maltese Microlepidoptera. – *Entomologist's monthly Magazine* **89**: 129.
- DeLucca, C. 1956. New additions to the Lepidoptera of the Maltese Islands. – *The Entomologist* **89** (1121): 253–256.
- DeLucca, C. 1965. The Place of the Lepidoptera in the Zoogeography of the Maltese Islands. *Extrait des Rapports et Procès-verbaux de réunions de la C.I.E.S.M.M.* **18** (2): 511–515.
- DeLucca, C. 1969. Lepidoptera from the Maltese Islands. – *Entomologists's Record* **81**: 137–140.
- De Reville, M. G. 1750. Histoire d'une Chenille mineuse des feuille de vigne, extraite d'une lettre écrite de malte à M. de Reaumur. – *Mémoires de mathématique et de Physique, Présentés à l'Académie Royale des Sciences par divers Scavans, & lus dans ses Assemblées*, **1**: 177–191.
- Fletcher, T. B. 1904–1905. A Preliminary List of the Lepidoptera of Malta. – *The Entomologist* **37**: 273–276, 315–319, **38**: 18–20.
- Gulia, G. 1858. Corso elementare di Entomologia Maltese dato nel Palazzo di Sant'Antonio. – *Lezione quarta. Classe sesta*: 46–56.
- Hodges, R. W. 1999. The Gelechioidea. – *In*: N. P. Kristensen (ed.), *Lepidoptera: Moths and Butterflies 1: Evolution, Systematics and Biogeography*: 131–158. De Gruyter, Berlin and New York.
- Kaila, L. 2004. Phylogeny of the superfamily Gelechioidea (Lepidoptera: Ditrysia): an exemplar approach. – *Cladistics* **20**: 303–340.
- Koster, J. C. & S. Yu. Sinev 2003. Momphidae, Batrachedridae, Stathmopodidae, Agonoxenidae, Cosmopterigidae, Chrysopeliidae. – *In*: P. Huemer, O. Karsholt & L. Lyneborg (eds), *Microlepidoptera of Europe 5*: 1–387. Apollo Books, Stenstrup.
- Lanfranco, E. 1995. – *In*: F. Giusti, G. Manganelli & P. J. Schembri, 1995: *The non-marine molluscs of the Maltese Islands. Monografie XV*. – Museo Regionale di Scienze Naturali, Torino. 607 pp.
- Lanfranco, S. 2002. *Kullana Kulturali 45 – L-Ambjent Naturali tal-Gzejjer Maltin. Publikazzjonijiet Indipendenza. Malta*. 196 pp.
- Parenti, U. 2000. *A Guide to the Microlepidoptera of Europe. Vol.1*. Museo Regionale di Scienze Naturali, Torino. 426 pp.
- Rebel, H. 1937. Neue europäische Tortriciden und Tineiden. – *Zeitschrift des österreichischen entomologen-Vereins Wien* **22** (5): 46–47.
- Riedl, T. 1986. Revue des lépidoptères Gelechioidea de Grèce conservés au Musée Zoologique de Copenhague, y compris la redescription de femelle de *Ramphis libanoticus* Riedl (Cosmopterigidae). – *Nota lepidopterologica* **9**: 227–228.
- Riedl, T. 1990. Sur quelques Gelechioidea conservés au Musée Zoologique de Copenhague (Lepidoptera) (Partie II). – *Nota lepidopterologica* **12**: 319–327.
- Riedl, T. 1996. Batrachedridae, Cosmopterigidae, Stathmopodinae. – *In*: Karsholt, O. & J. Razowski (ed) 1996: *The Lepidoptera of Europe – A Distributional Checklist*. – Apollo Books, Stenstrup. 380 pp.
- Sammut, P. 1982. Eine Revision über die Tagfalterfauna (Lepidoptera – Rhopalocera) der maltesischen Inselgruppe. *Entomologische Nachrichten* **81**: 71–78
- Sammut, P. 1983. Die Geometriden der Maltesischen Inseln (Lepidoptera: Geometridae). *Neue Entomologische Nachrichten* **6**: 61–64.
- Sammut, P. 1984. A Systematic and Synonymic List of the Lepidoptera of the Maltese Islands. – *Neue Entomologische Nachrichten* **13**: 1–124.
- Sammut, P. 1985: Further Additions to the Lepidoptera of the Maltese Islands. – *SHILAP Revista de Lepidopterologia* **13** (52): 304–306.
- Sammut, P. 2000. *Kullana Kulturali. 12 – Il-Lepidoptera. Publikazzjonijiet Indipendenza, Malta*. 246 pp.
- Schembri, S. 1996. Insects. – *In*: J. Sultana, & V. Falzon, (eds.), *Wildlife of the Maltese Islands*. – Environment Protection Department, Malta. 336 pp.

- Schembri, P. J., A. E. Baldacchino, A. Camilleri, A. Mallia, Y. Rizzo, T. Schembri, D. T. Stevens, & C. Tanti 1999. Living resources, fisheries & agriculture: 109–283. – *In*: State of the Environment report for Malta 1998. Environment Protection Department, Malta. 448 pp.
- Sinev, S. Yu & J. C. Koster 2004. Fauna Europaea: Cosmopterigidae – Chrysopeliinae. – *In*: O. Karsholt & E. v. Nieukerken (eds.), Lepidoptera. – Fauna Europaea version 1.1, <http://www.faunaeur.org>
- Sterling, P. H., J. C. Koster & P. D. M. Costen 2004. *Pyroderces argyrogrammos* (Zeller, 1847) (Lepidoptera: Cosmopterigidae) new to the Channel Islands. – *Entomologist's Gazette* **55**: 161–165.
- Valletta, A. 1950. Recent additions to the known Lepidoptera Heterocera of the Maltese Islands. – *Entomologist* **83**: 252–254.
- Valletta, A. 1951. Additions to the list of Lepidoptera Heterocera of the Maltese Islands. – *Entomologist* **84**: 64–66.
- Valletta, A. 1953. Additions to the known lepidoptera of the Maltese Islands. – *The Entomologist* **86**: 8–9.
- Valletta, A. 1955. Further additions to the list of Lepidoptera of the Maltese Islands. – *Entomologist's monthly Magazine* **91**: 246–247.
- Valletta, A. 1972. *The Butterflies of the Maltese Islands*. – Progress Press, Malta. 64pp.
- Valletta, A. 1973. *The Moths of the Maltese Islands*. – Progress Press, Malta. 120 pp.